

Atlantic Richfield Company

\$QWKRQ\ 5◀ L %URZQ
 3URJHW\ 0DQDJH\ 0LALQJ\
 \$SULQ\ !! ♀ L + !! ♀ → L
 0V\ /AQGL 'HVKOPEDQW
 86\ (3\\$ L 5HJLRQ\ L
 → ↑ +DZVKRQH\ 6AUH\ 6) '↑ + L
 6DQ\)UDQFLVFR\ &\\$ L + ♀ !! ↑ L
 5(/HYLDWKQ\ ORQKOV\ 5HSRUW\ IRU\ 0DUFK\ + !! ♀ → L DQG\ 4XDUWHU\ 5, 6\ 3URJUHW\ 5HSRUW
 'HDU\ 0V\ /HVKOPEDQW L
 7KH\ 1ROORZLQJ\ WHW\ GHMULEHV\ DFALYIWLHV\ FRQGXFWHG\ GXULQJ\ WKH\ PRQWK\ RI\ 0DUFK\ + !! ♀ → L DQG\ 6LWH\ VVH\ DQG\ DFALYIWLHV\ DQNLFLSDWHL\ WR\ RFFXUL\ GXULQJ\ WKH\ XSRPLQJ\ PRQWK\ L 7KHM\ E\ ZRUN\ DUHD\ >\$VSHQ\ 6HHS\ &KQQHO\ 8QHUGUDLQ\ &8' \ DQG\ 'HOD\ 6HHS\ '6@ DQG\ VV SURJUHW\ UHSRUW\ LV\ BHQJ\ VXEPLWHL\ LQ\ DFRRUGDQH\ ZLWKL\ 3DUDJUDSK\ RI\ WKH\ \$GPLQLWUDALYH\ 2UGHUL\ IRU\ 5HPGLD\ \$JUHPHQW\ DQG\ 2UGHUL\ RQL\ &RQHQW\ IRU\ 5HPRYDO\ \$FALRQ\ &2& \ HI\ IHPALYH\ -DQXOUV\ + !! ♀ L
 \$WODQWL\ 5LFKILHOG\ LV\ DOVR\ VXEPLWHLQJ\ WKLV\ CHWHL\ LQ\ VDWLVIDFALRQ\ RI\ WKH\ TXDUWHU\ UHTXLUHPHQW\ VVW\ IRUWKL\ LQ\ 3DUDJUDSK\ RI\ WKH\ \$GPLQLWUDALYH\ 2UGHUL\ IRU\ 5HPGLD\)HDLEROLW\ 6WGL\ 5, 6\ 6\ 8\ 6\ (3\\$ L 5HJLRQ\ ; &(5&/\\$ L 'RFNHW\ 1RK\ + !! ← + ♀ ← ♀ 7KH\ TXDUWHU\ VAPPDU\ RI\ 5, 6\ DFALYIWLHV\ LV\ SURYLGHG\ DV\ WKH\ HOG\ RI\ WKLV\ CHWHL
 \$&7, 9, 7, (6\)25\ 0\$5&+ L
\$VSHQ\ 6HHS\
 x\ 2SHUDWHL\ WKH\ \$VSHQ\ 6HHS\ %URUHDFWRU\ & \$6\ 7UDPHQW\ 6\WHP\ LQ\ UHFLUXODALRQ\ PRGH\ IRU\ 0DUFK\ \$OLPLWHL\ DFRHW\ VDVRQ\ /\$6\ ZLQHUL\ VVH\ YLVIW\ WR\ WKH\ \$6\ 7UDPHQW\ 6\WHP\ RQ\ 0DUFK\ + !! ♀ L + !! ♀ → L 'XULQJ\ WKH\ /\$6\ ZLQHUL\ VVH\ YLVIW\ URXALQH\ RSHUDALR\ FRPSOLDQH\ VDPSOLQJ\ DFALYIWLHV\ ZHUH\ SHUIRUPHG\ L 7KH\ LQIOXHQW\ DQG\ HIIOXHQW\ FRPSOLDQH\ UHMXOW\ DUH\ SUHMHQWHL\ LQ\ 7DEOH\ ♀ L 5HPHQW\ LQIOXHQW\ IORZ\ UDWH\ S+ \ DQG\ 253\ 1L\ 7DEOH\ + L
&8' L DQG\ '6
 x\ 7KH\ +LJK\ 'HQMLW\ 6OXGUH\ +'6\ 7UDPHQW\ 3DQW\ DQG\ &8' L DQG\ '6\ FRQMH\ DQFH\ DQG\ HTXLSPHQW\ UHDPLQH\ ZLQHUL\ GXULQJ\ WKH\ PRQWK\ RI\ 0DUFK\ L



/VQGD^L 'HMPKOPEDXOW^L ±^L 8[◀] 6[◀] L (3\$^L 5HJLRQL^L L
\$SULO^L ¶ !! ☺ ± ± !! ¶ → L
3DJH^L ± L RI^L + L

x^L 2Q^L ODUFK^L ± → ☺ ± !! ¶ → ☺ L \$WODQWLFL^L 5LFKILHOG^L VXEPLWAGL D^L CHWHL^L WR^L WKH^L 8[◀] 6[◀] L
5LFKILHOG^L SODQVL^L IRU^L DFFHW^L FRPPLWLRQLQ^L DQG^L WDUWSL^L RI^L WKH^L +'6^L 7UHDAPHQW^L 6\W^L
IRU^L DXWKRULJDWLRQ^L WR^L SHURUP^L ZDWHU^L WUDAPHQW^L GAULQJ^L WKH^L ± !! ¶ → L 6SULQJ^L 3RUWLRQ^L RI^L L
TURP^L WKH^L 8[◀] 6[◀] L (3\$^L KDV^L QRW^L \HW^L EHQL^L SURYLGHG^L L

6WHL ZLGH

x^L &RQWLQXH^L WR^L XSGDWHL^L WKH^L /HYLDWKDQL^L OLQH^L 3URMHW^L 'DADEDHL^L ZLWL^L GDWL^L TURP^L PRQWRLULQJ^L S^L
\$WODQWLFL^L 5LFKILHOG^L DQG^L YDULRXV^L DJHQFLHV^L

x^L 2Q^L ODUFK^L ± ¶ ☺ ± !! ¶ → ☺ L D^L FRQIHUHQFH^L FDQO^L ZDVL^L FROGXFAGL ZLWL^L WKH^L 8[◀] 6[◀] L (3\$^L WR^L
XSGDWHL^L

x^L 2Q^L ODUFK^L ± ± ☺ ± !! ¶ → ☺ L \$WODQWLFL^L 5LFKILHOG^L SURYLGHL^L WKH^L 8[◀] 6[◀] L (3\$^L ZLWL^L DL^L
VXPDLQJ^L LQJ^L WKH^L TLHOG^L REVHUYDALRQV^L LQ^L DFFRUGDQFH^L ZLWL^L WKH^L &RQWLQHQF^L 3DQL^L TURP^L V^L
± !! ¶ → L VIWHL YLVW^L L L 2EVHUYDALRQV^L RI^L WKH^L /HYLDWKDQL^L &UHNL^L &OYHW^L ZLHL^L QRW^L FRPSCH^L
FRQWALDLQW^L

x^L 2Q^L ODUFK^L ± ← ☺ ± !! ¶ → ☺ L 8[◀] 6[◀] L (3\$^L DSSURYHG^L WKH^L ± !! ¶ → L \$PHQGPHQW^L WR^L WKH^L 5HPRYD^L
♂ 5\$:3□◀ L

x^L 6XEPLWAGL WKH^L ± !! ¶ → L \$QQXDO^L 5RDGL 2SHUDALQJ^L 3DQL^L WR^L WKH^L 8QWAGL 6ADWHL^L 'HSQWPHQ^L
)RUHW^L 6HUYLFH^L ♂ 86'\$^L)6□ L RQ^L ODUFK^L ± !! ☺ ± !! ¶ → L

x^L &RQWLQXH^L FRPSLOLQJ^L LQIRUPDWLRQ^L IRU^L WKH^L ± !! ¶ → L \$QQXDO^L &RPSCHWRQ^L 5HSRUW^L ♂ GH^L \$SULO^L

L

\$&7,9,7,(6^L)25^L 83&20,1*^L 0217+^L

L

\$VSHQ^L 6HHS^L

x^L &RQWLQXH^L RSHUDALRQ^L RI^L WKH^L \$8%^L 7UHDAPHQW^L 6\WHP^L LQ^L UHFLUFXODWLRQ^L PRGH^L DQG^L FROGXF^L /\$^L
PRQWRLULQ^L DQG^L PDQWHDQDFH^L DV^L RWOLQH^L LQ^L WKH^L 5HPRYDOL^L \$FWLRQ^L :RUN^L 3DQL^L ♂ 5\$:3□◀ L
ZLQHUL^L DFFHW^L YLVW^L LV^L WHQNDALYHO^L VFKHGXCHG^L IRU^L PLG^L \$SULO^L

x^L 'DAD^L TURP^L ± !! ¶ → L \$8%^L 7UHDAPHQW^L 6\WHP^L RSHUDALRQ^L ZLQO^L EH^L FRPSLOHG^L IRU^L LQFOXVLRQ^L L^L
&RPSCHWRQ^L 5HSRUW^L

L

88' L DQG^L '6^L

x^L 'DAD^L TURP^L ± !! ¶ → L +'6^L 7UHDAPHQW^L 3DQW^L RSHUDALRQ^L ZLQO^L EH^L FRPSLOHG^L IRU^L LQFOXVLRQ^L L^L
&RPSCHWRQ^L 5HSRUW^L

x^L %HJLQL^L VIWHL WHWSL DWALYWLHW^L LQ^L WKH^L 3RQG^L ± L DUHD^L IRU^L WKH^L VSULQJ^L SRUWLRQ^L RI^L WKH^L ±
SHQGLQJ^L ZDWHU^L DQG^L VDIH^L DFFHW^L FROGLWLRQ^L

L

6WHL ZLGH

x^L &RQWLQXH^L WR^L SURYLGHL^L SURMHW^L SURUHW^L XSGDWHL^L WR^L WKH^L 8[◀] 6[◀] L (3\$^L YLD^L FRQIHUHQFH^L
FRQIHUHQFH^L FDQO^L LVL FXWHQNO^L VFKHGXCHG^L IRU^L \$SULO^L ¶ ← ☺ ± !! ¶ → L

x^L 6XEPLWAGL WKH^L ± !! ¶ → L \$QQXDO^L &RPSCHWRQ^L 5HSRUW^L WR^L WKH^L 8[◀] 6[◀] L (3\$^L

x^L \$WODQWLFL^L 5LFKILHOG^L ZLQO^L FRQWLQXH^L WR^L FRRUGDQW^L ZLWL^L WKH^L /5:48%^L DQG^L LWW^L FRQWUDFW^L
5LFKILHOG^L SUHSUHV^L IRU^L DFFHWLQJ^L WKH^L VIWHL IRU^L VSULQJ^L FRPPLWLRQLQJ^L

/VQGD^L 'HMFKDPEDXOW^L ±^L 8[◀] 6[◀] L (3\$^L 5HJLRQL^L L
\$SULO^L ¶ !! ☺ L ± !! ¶ → L
3DJH^L T^L RI^L +^L

L
L L L L L L L L L L L L L L L L

4XDUWHO\ L 5,↑)6^L 3URJUHWL 5HSRUW

\$V^L UHTXLHGL^L E\ L 3DUDJUDSK^L +^L RI^L WKHL^L 8\$2[♂] L WKHL^L IROORZLQJ^L 4XDUWHO\ L 3URJUHWL 5HSRUW^L, QYHVALJDWLRLQ^L DQG^L)HDVLELOLW^L 6WKG\ L ♂ 5,↑)6^L DFALYLWLHV^L GHMFULEHV^L ♂ D^L L WKHL^L DFALRQL^L V^L 8\$2^L GKULQJ^L WKHL^L SULRU^L TXDUWHO\ L ♂ E^L L WKHL^L ZRUN^L SODQHQGL^L IRU^L WKHL^L QHJW^L TXDUWHO\ L ♂ HQFRXQWHUHG^L RU^L DQNLFLSDWHL^L LQFOXGLQJ^L DQ\ L DFWDOL^L RU^L DQNLFLSDWHL^L GHODIVL^L LQ^L VPKHGCHV^L L

\$FWLRQV\ L 7DNHQ\ L WR\ &RPSO\ L ZLWK\ L WKHL\ 8\$2^L

x^L 6XEPLWHGL^L WKHL^L 4XDUWHO\ L 3URJUHWL 5HSRUW^L IRU^L WKHL^L IRXUWK^L TXDUWHU^L RI^L ± !! ¶ +^L ±^L -DQXDU\ L^L

x^L &RQGXFWHG^L PRQWKO\ L SURJUHWL FRQIHHQFH^L FDOOV\ L ZLWK^L 8[◀] 6[◀] L (3\$^L ±^L -DQXDU\ L^L)HEUXDU\ L^L

x^L 5HFHLYHG^L H+ PDLO^L UHJDUGLQJ^L DJHQGD^L IRU^L -DQXDU\ L^L ¶ → ☺ L ± !! ¶ → L ODDQJHPHQW^L OHWLOQ^L 6FKHGCH^L ±^L -DQXDU\ L^L ¶ +^L ± !! ¶ → L

x^L 5HFHLYHG^L H+ PDLO^L UHJDUGLQJ^L SDQNLFLSDQW^L IRU^L -DQXDU\ L^L ¶ → ☺ L ± !! ¶ → L ODDQJHPHQW^L OHWLOQ^L 6FKHGCH^L ±^L -DQXDU\ L^L ¶ +^L ± !! ¶ → L

x^L 6XEPLWHGL^L HJWQMLRQL^L UHTXHWW^L IRU^L UHMSRQMH^L WR^L 8[◀] 6[◀] L (3\$^L FRPPHQW^L RQL^L, QWHLPL^L &RPELQHG^L, QYHVALJDWLRLQ^L 5HSRUW^L ±^L -DQXDU\ L^L ± !! ¶ → L

x^L 5HFHLYHG^L H+ PDLO^L DV^L IROORZ^L XS^L WR^L -DQXDU\ L^L ± !! ¶ → L FDOOL^L UHJDUGLQJ^L 5,↑)6^L VPKH

x^L 6XEPLWHGL^L H+ PDLO^L UHJDUGLQJ^L (O^L 1LQR^L ORQWULQJ^L IRU^L SHURGL^L RI^L -DQXDU\ L^L +^L ±^L ☺ L

x^L 5HFHLYHG^L H+ PDLO^L UHJDUGLQJ^L WADWV^L RI^L))6^L *HRWFKQLFDOL^L (YDOXDWLRQ^L 76\$3^L ±^L -DQXDU\ L^L))

x^L 5HFHLYHG^L H+ PDLO^L UHJDUGLQJ^L SUHYLRXV^L 8[◀] 6[◀] L (3\$^L FRPPHQW^L RQL^L))6^L *HRWFKQLFDOL^L (YDOXDWLRQ^L -DQXDU\ L^L ¶ +^L ± !! ¶ → L

x^L 6XEPLWHGL^L H+ PDLO^L UHJDUGLQJ^L HJWQMLRQL^L UHTXHWW^L UHJDUGLQJ^L UHMSRQMH^L WR^L 8[◀] 6[◀] L (3\$^L &RPPHQW^L 5HSRUW^L ±^L DQG^L 5,↑)6^L &RPSO\ LWRQ^L 6FKHGCH^L ±^L -DQXDU\ L^L ± !! ¶ → L

x^L 6XEPLWHGL^L UHMSRQMH^L WR^L FRPPHQW^L DQG^L UHYLVHG^L *URXQZDWHU^L 7'65[♂] L 9HJMLRQ^L 1R^L L ±^L ±^L -D

x^L \$WQHQHG^L \$QQXDO^L 7HFKQLFDOL^L 8SGDWHL^L OHWLOQ^L ±^L -DQXDU\ L^L ± !! ¶ → L

x^L 6XEPLWHGL^L UHYLVHG^L 4XDOLW^L \$WADQFH^L 3URMHW^L 30DQ^L ♂ 4\$33[□] L DQG^L UHMSRQMH^L WR^L 8[◀] 6[◀] L (3\$^L 4\$33[♂] L 3URMHW^L 'DADEDW^L DQG^L 'DAD^L 4XDOLW^L 2EMHRYHV^L ±^L -DQXDU\ L^L ± !! ¶ → L

x^L 5HFHLYHG^L H+ PDLO^L UHJDUGLQJ^L WADWV^L RI^L 7DN^L 6DPSOLQJ^L \$QDO\ VLVL^L 30DQ^L ♂ 76\$3[□] L IRU^L)R^L 6WKG\ L ♂))6^L *HRWFKQLFDOL^L (YDOXDWLRQ^L ±^L -DQXDU\ L^L ¶ +^L ± !! ¶ → L

x^L 6XEPLWHGL^L H+ PDLO^L UHJDUGLQJ^L WADWV^L RI^L 76\$3^L IRU^L))6^L *HRWFKQLFDOL^L (YDOXDWLRQ^L ±^L -DQXDU

x^L 5HFHLYHG^L H+ PDLO^L UHJDUGLQJ^L SUHYLRXV^L 8[◀] 6[◀] L (3\$^L FRPPHQW^L RQL^L 76\$3^L IRU^L))6^L *HRWFKQLFDOL^L ±^L -DQXDU\ L^L ¶ +^L ± !! ¶ → L

x^L 6XEPLWHGL^L H+ PDLO^L UHMSRQMH^L WR^L -DQXDU\ L^L ± !! ¶ → L H+ PDLO^L UHJDUGLQJ^L 5,↑)6^L 6FKHGCH

x^L 6XEPLWHGL^L UHMSRQMH^L WR^L 8[◀] 6[◀] L (3\$^L FRPPHQW^L RQL^L, QWHLPL^L &RPELQHG^L 7UHDWDELOLW^L, QYHVALJDWLRLQ^L)HEUXDU\ L^L ¶ +^L ± !! ¶ → L

/VQGD^L 'HMPKOPEDXOW^L ±^L 8[◀] 6[◀] L (3\$^L 5HJLRQL^L L
\$SULO^L ¶ !! ☀ L ± !! ¶ → L
3DJH^L + L RI^L + L

x^L 5HFLHYHG^L 8[◀] 6[◀] L (3\$^L &RPPHQW^L RQL 6XUIDFH^L :DWHUL 7HFKQLFDO^L 'DWD^L 6XPPDU\^L 5HSRUW^L ☀
)HEUXOU\^L ← ☀ L ± !! ¶ → L
x^L 5HFLHYHG^L H[†] PDLO^L LQTXLU\^L UHJDUGLQJ^L DGGILWRQDO^L ZRUN^L SODQV^L DOGL VXPDU\^L RI^L UHPDLQLQJ^L ZR
← ☀ L ± !! ¶ → L
x^L 5HFLHYHG^L H[†] PDLO^L LQTXLU\^L UHJDUGLQJ^L HDLO\^L VXEPLWDO^L RI^L))6^L %'↑ 3&^L ±^L)HEUXOU\^L ← ☀ L ±
x^L 6XEPLWHDG^L UHSRQMH^L WR^L FRPPHQW^L DOGL UHFLVHG^L 76\$3^L IRU^L))6^L *HRWHFKQLFDO^L (YDOXDALRQL^L ±
± !! ¶ → L
x^L 6XEPLWHDG^L H[†] PDLO^L WUDQMLWLQJ^L (O^L 1LQR^L ORQIWRULQJ^L 2EVHUYDALRQV^L ±^L)HEUXOU\^L ¶ + ☀ L ± !!
x^L 5HFLHYHG^L H[†] PDLO^L UHTXHW^L IRU^L LGQWLTLFDALRQ^L RI^L UHPDLQLQJ^L ZRUN^L GHOLYHDECHV^L RQL 5
WUDFNLQJ^L VSUHDGMKH^L ±^L)HEUXOU\^L ¶ ↑ ☀ L ± !! ¶ → L
x^L 5HFLHYHG^L 8[◀] 6[◀] L (3\$^L FRPPHQW^L RQL UHSRQMH^L WR^L FRPPHQW^L DOGL)LQDO^L 5HIIHUQFH^L \$UHD^L :
)HEUXOU\^L ¶ + ☀ L ± !! ¶ → L
x^L 6XEPLWHDG^L H[†] PDLO^L WUDQMLWLQJ^L ± !! ¶ + ± !! ¶ → L ZRUN^L WDNKVL VOLGH^L TURP^L 'HF^L ¶ ¶ + ☀
)HEUXOU\^L ¶ + ☀ L ± !! ¶ → L
x^L 6XEPLWHDG^L H[†] PDLO^L UHJDUGLQJ^L VFKHGXOH^L IRU^L VXEPLWDO^L RI^L))6^L :RUN^L 30DQ^L IRU^L %'↑ 3&^L ±
x^L 5HFLHYHG^L H[†] PDLO^L UHTXHWLQJ^L FRPSOHWH^L FRS\^L RI^L 'HF^L ¶ + ☀ L WHFKQLFDO^L PHWLQJ^L VOLGH^L
GRFXPHQW^L WUDFNLQJ^L VSUHDGMKH^L ±^L)HEUXOU\^L ¶ → ☀ L ± !! ¶ → L
x^L 6XEPLWHDG^L UHSRQMH^L WR^L FRPPHQW^L DOGL)LQDO^L %DMHOLQH^L +XPDQ^L +DOWKL^L 5LN^L \$VHMMPHQW^L :
5HFLVLRQ^L ±^L ±^L)HEUXOU\^L ← ☀ L ± !! ¶ → L
x^L 5HFLHYHG^L /HLDWKDQL OLC^L 6XSHUIXQG^L 6LNH^L +LWWRU\^L DOGL 7LPHOLQH^L)DFW^L 6KHW^L ±^L ODUFK^L ¶ ☀
x^L 6XEPLWHDG^L CHWHL^L SURYLGLQJ^L IROORZ^L XS^L WR^L -DQDU\^L ¶ → ☀ L ± !! ¶ → L ODQDJHPHQW^L OHWLC^L
6FKHGCH^L ±^L ODUFK^L + ☀ L ± !! ¶ → L
x^L 5HFLHYHG^L H[†] PDLO^L UHTXHWLQJ^L ± !! ¶ → L LHOG^L 6DPSOLQJ^L &DOHQGDUL^L ±^L ODUFK^L + ☀ L ± !! ¶ → L
x^L 6XEPLWHDG^L UHSRQMH^L WR^L 8[◀] 6[◀] L (3\$^L DOGL /5:48%^L FRPPHQW^L RQL 6XUIDFH^L :DWHUL 7'65^L ±
± !! ¶ → L
x^L 6XEPLWHDG^L (O^L 1LQR^L PRQIWRULQJ^L IRU^L WKH^L PRW^L UHFLQW^L SHURGL^L RI^L ZLQHUL^L WRUPV^L ☀
ODUFK^L ¶ + ☀ L ± !! ¶ → L
x^L 6XEPLWHDG^L H[†] PDLO^L SURYLGLQJ^L GRFXPHQW^L VFKHGXOH^L XSGDW^L ±^L ODUFK^L ¶ + ☀ L ± !! ¶ → L
x^L 6XEPLWHDG^L H[†] PDLO^L UHSRQMH^L WR^L (3\$^L UHTXHW^L IRU^L XSGDW^L ± !! ¶ → L LHOG^L 6DPSOLQJ^L FDO^L
± !! ¶ → L
x^L 6XEPLWHDG^L H[†] PDLO^L WUDQMLWLQJ^L XSGDW^L GRFXPHQW^L WUDFNLQJ^L VSUHDGMKH^L ±^L ODUFK^L ¶ → ☀ L
x^L 5HFLHYHG^L 8[◀] 6[◀] L (3\$^L &RPPHQW^L RQL 'UDM^L)LQDO^L \$PHQGPHQW^L 1R^L ¶ + ☀ L 76\$3^L UHJDUGLQJ^L
,QHWAJLJDALRQ^L ±^L ODUFK^L ± !! ☀ L ± !! ¶ → L
x^L 5HFLHYHG^L DSSURYDOL RI^L :RUN^L 30DQ^L IRU^L 30DQ^L DOGL +DELWDW^L 5HODWGL^L 6RLO^L,QHWAJLJDALRQ^L ±
x^L 6XEPLWHDG^L))6^L :RUN^L 30DQ^L IRU^L (YDOXDALRQL RI^L 5HFLYHG^L 7HFKQRORJLHV^L IRU^L %'↑ 3&^L ±^L ODUFK^L
x^L 5HFLHYHG^L UHTXHW^L IRU^L ± !! ¶ → L LHOG^L 6DPSOLQJ^L &DOHQGDUL^L E\^L \$SULO^L ↑ L SULRU^L WR^L WHFKQL^L
ODUFK^L ±^L ☀ L ± !! ¶ → L

/VQGD^L 'HMFKOPEDXOW^L ± L 8[◀] 6[◀] L (3\$^L 5HJLRQL^L L
\$SULO^L ¶ !! ☰ L ± !! ¶ → L
3DJH^L ↑ L RI^L + L

x^L 5HFLHYHG^L H+ PDLO^L XSGDWHL UHJDUGLQJ^L WDNXVL RI^L HDUD^L VSULQJ^L WUHDWPHQW^L DQG^L SRWLELOMW^L R /HYLDWKDQ^L &UHN^L ± L ODUFK^L ± T ☰ L ± !! ¶ → L
x^L 5HFLHYHG^L 8[◀] 6[◀] L (3\$^L FRPPHQW^L RQ^L \$GGHQGP^L 1R[◀] L + L 76\$3^L IRUL)OXYLDOL^L 'HSRMVW^L 6DPSOLQ^L)RUN^L &DURQ^L 5LYHUL^L ± L ODUFK^L ± → ☰ L ± !! ¶ → L
x^L 5HFLHYHG^L H+ PDLO^L UHTXHW^L IRUL LQIRUPDWLRQ^L UHJDUGLQJ^L ODE^L DQG^L DQDOWLFDO^L PHWKRG^L XHG DQDOWHML^L ± L ODUFK^L ± → ☰ L ± !! ¶ → L
x^L 6XEPLWHG^L H+ PDLO^L UHRSQMH^L WR^L UHTXHW^L IRUL LQIRUPDWLRQ^L UHJDUGLQJ^L ODE^L DQG^L DQDOWLFDO^L P ILVK^L WLWXH^L DQDOWHML^L ± L ODUFK^L ± → ☰ L ± !! ¶ → L
x^L 5HFLHYHG^L VAPPDU^L RI^L VSULQJ^L WUHDWPHQW^L RSHUDWLQV^L IURPL ODUFK^L ± !! L + L ± → ☰ L ± !! ¶ → L
x^L 5HFLHYHG^L H+ PDLO^L UHTXHW^L IRUL VSULQJ^L VXUIDPH^L ZDWHU^L DQG^L VQRZ^L PHOM^L PRQLWRULQJ^L ± L ODUFK^L
x^L 6XEPLWHG^L ± !! ¶ ↑ L 5,↑)6^L 'DWD^L 6XPPDU^L 5HSRUW^L ± L ODUFK^L ± ☰ L ± !! ¶ → L
x^L 6XEPLWHG^L H+ PDLO^L UHRSQMH^L WR^L (3\$^L UHTXHW^L IRUL VDPSOLQJ^L ORFDWLQ^L PDS^L DQG^L 1'(3^L PRQLWRULQJ^L
± L ODUFK^L ± ☰ L ± !! ¶ → L
x^L 5HFLHYHG^L H+ PDLO^L LQTXLU^L UHJDUGLQJ^L DFALRQ^L ,WHPV^L IURPL ODUFK^L ± ¶ L ORQKO^L 6WDWV^L 8SGDW^L
± ☰ L ± !! ¶ → L
x^L 5HFLHYHG^L H+ PDLO^L UHTXHW^L IRUL VDPSOLQJ^L ORFDWLQ^L PDS^L DQG^L 1'(3^L PRQLWRULQJ^L ORFDWLQV^L ± L
x^L 5HFLHYHG^L H+ PDLO^L LQTXLU^L DERXW^L \$5^L DWWHQGDQFH^L DQG^L SUHMHQDWLRQ^L PDWULDQ^L IRUL \$SULO^L
± L !! ¶ → L ILHOG^L DFALYWLHV^L ± L ODUFK^L ± ☰ L ± !! ¶ → L
x^L 6XEPLWHG^L))6^L :RUN^L 3DQQL^L IRUL ,QWHLPL &RPELQHG^L 7UHDWDELQW^L ,QYHWAJDWLRQ^L)XOO^L 6FDOH^L
± L ODUFK^L ± ☰ L ± !! ¶ → L

:RUN^L 3DQQL^L IRUL WKL 1HWL 4XDUWHU^L

x^L &RQGXFW^L ORQKO^L 3URJUHW^L &RQIHUHQFH^L &DOOV^L ZLWK^L 8[◀] 6[◀] L (3\$^L ± L \$SULO^L ± ODUFK^L -XQH^L
x^L &RQGXFW^L FRQIHUHQFH^L FDQO^L ZLWK^L 8[◀] 6[◀] L (3\$^L WR^L GLVFXW^L ± !! ¶ → L ILHOG^L VFKHGXCH^L ± L \$SULO^L
x^L 6XEPLW^L UHRSQMH^L WR^L FRPPHQW^L DQG^L UHLYVHG^L)LQDOL^L 5HIIHUHQFH^L \$UHD^L :RUN^L 3DQQL^L ± L \$SULO^L
x^L 6XEPLW^L SURSRVHGL^L SODQV^L IRUL ± !! ¶ → L VXUIDPH^L ZDWHU^L PRQLWRULQJ^L ± L \$SULO^L ± !! ¶ → L
x^L 6XEPLW^L SURSRVHGL^L ± !! ¶ → L VQRZPHOM^L UXQRI^L PRQLWRULQJ^L DQG^L PRGLI LFDWLQ^L WR^L HYDSRUDWLQ^L
SURJDPL^L ± L \$SULO^L ± !! ¶ → L
x^L 6XEPLW^L 76\$3^L IRUL ELRDFHWDDELQW^L WHWALQJ^L ± L \$SULO^L ± !! ¶ → L
x^L 6XEPLW^L \$GGHQGP^L 1R[◀] L ¶ L WR^L \$PHQGPHQW^L 1R[◀] L ¶ L 76\$3^L IRUL 6:↑ *:L ,QWHLDFWLQ^L ,QYHWAJ^L
/HYLDWKDQ^L &UHN^L ± L \$SULO^L ± !! ¶ → L
x^L 6XEPLW^L \$GGHQGP^L 1R[◀] L ± L WR^L \$PHQGPHQW^L 1R[◀] L ¶ L 76\$3^L IRUL 6:↑ *:L ,QWHLDFWLQ^L ,QYHWAJ^L
/RZHU^L /HYLDWKDQ^L &UHN^L ± L \$SULO^L ± !! ¶ → L
x^L 6XEPLW^L UHRSQMH^L WR^L FRPPHQW^L DQG^L VSSCHPHQW^L WR^L \$PHQGPHQW^L 1R[◀] L ¶ L 76\$3^L UHJDUGLQJ^L +V^L
,QYHWAJDWLRQ^L ± L \$SULO^L ± !! ¶ → L
x^L 6XEPLW^L XSGDWHL 'DWD^L 4XDUWM^L 2EMHWLYHV^L ♂ '42V^L DV^L UHLYVHG^L \$SSHQGL[L %L WR^L 4\$33^L ± L \$
&RPPHQFH^L ± !! ¶ → L PRQLWRULQJ^L DQG^L RAKHUL^L ILHOG^L VDPSOLQJ^L DFALYWLHV^L ± L ODUFK^L ± !! ¶ → L

/VQGD^L 'HMFOPEDXOW^L ± L 8[◀] 6[◀] L (3\$^L 5HJLRQL L
\$SULO^L ¶ !! ☀ L ± !! ¶ → L
3DJH^L F L RI^L F L

x^L &RQWLOQH^L DQDO\VLV^L RI^L 5, L VDPSOLQJ^L UHMXOWL^L LQ^L VXSSRUW^L RI^L SUHSUDUWLRLQ^L RI^L DL FR
FKOUDFWHUL]DWLRQ^L UHSRUW^L LQFOXGLQJ^L PHGLD+ VSHFLILF^L 7HFKQLFDOL^L 'DWD^L 6XPPDU\ L 5HSRUW^L L
FDQHQGDU^L \HDUL ± !! ¶ → ▲ L

3UREOHPV^L (QFRXQW\UHG^L RUL SQNLFLSDWHL^L

x^L 3RRU^L VLWH^L DFFHW^L FROGLWRQV[↑] LQIUDWULXFWXUH^L UHSOLUV^L UHMXOWLQJ^L IURPL WKH^L VHYHUH^L ZLQ^L
XQHWMOHG^L ZHDWKHUL SDWHLQJ^L PDI^L FDVH^L SRWQALDOL GHOD\VL WR^L WDUW^L RI^L WKH^L ZRUN^L VHVRQ^L
ZLQ^L NHSL 8[◀] 6[◀] L (3\$^L DSSULVH^L RI^L VFKHGCHG^L ZRUN^L DFALYV\VLHV^L DV^L ZH^L SURJUHW^L WKURXJK^L
/\$6^L DQG^L LQWR^L WKH^L ILHOG^L VHVRQ^L

L L L L L L L L L L L L L L L L

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, L \RX^L KDYH^L DQ^L TXH\WLRLQV^L RUL FRPPHQW^L L SODVH^L IHHOL IUH^L WR^L FRQNDFW^L PH^L DW^L ♂ ↑ → □
SQWKRQ\ ¶ %URZQ\ES^L FRP^L

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3URMHW^L ODQDJHU^L

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\$WDFKPHQW^L

7DEOH^L ¶ L ± L \$VSHQ^L 6HHS^L %LRUHDFWRUL 7UHDWPHQW^L 6\WHP^L ± &RPSOLDQFH^L 6DPSOH^L 5HMOWL^L
7DEOH^L ± L ± L \$VSHQ^L 6HHS^L %LRUHDFWRUL 7UHDWPHQW^L 6\WHP^L ± L 5HFPQW^L)ORZ^L S+^L DQG^L 253^L
OHDXUHPHQW^L

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FF L L L *DU\ L 5LCH\ ☀ L 8[◀] 6[◀] L (3\$^L 5HJLRQL L

'RXJODVL &DUH\ ☀ L /DKRQNDQ^L 5HJLRQDOL :DWUL 4XDOLW^L &RQWUROL %RDUG^L

5RQDOGL +DOMH\ ☀ L \$VODQWLFL 5LFKILHOG^L &RPSDQ\ L

\$QG^L)LHGOH\ ☀ L \$VODQWLFL 5LFKILHOG^L &RPSDQ\ L

1DWKDQ^L %ORFN^L L %3^L L

5HJLQDOG^L ,ODR^L L \$VODQWLFL 5LFKILHOG^L &RPSDQ\ L

\$GDP^L &RKHQ^L L (VT[◀] ☀ L 'DYLV^L *UDKDP^L L 6AKEEV^L //3^L

'DYH^L OF&DUW^L &RSSHUL (QYLURQPHQWDO^L &RQXOWLQJ^L

ODUFL /RPEDUGL^L \$PHF^L)RWHU^L :KHQHUL (QYLURQPHQW^L L ,QIUDWULXFWXUH^L L ,QF[◀] L

6DQ\ L 5LHM^L L (Q6FL^L L ,QF[◀] L

7\$%/ (L ¶
 \$63(1 L 6((3 L %,25(\$&725 L 75(\$70(17 L 6<67(0 L + L &203/, \$1&(L 6\$03/(L 5(68/76
 0\$5&+ L + !! ¶ → L 0217+/< L 6800\$5<
 'UDIW L + L 3URYLVRQDOL 'DWD

3DUDPHWHU	%DVLV	ODURK L + !! ¶ + + + \$63,1) !! - \$6% L ,QIOXHQW PJ↑ /	! PDBUFK L + !! ¶ + + + \$63()) !! - \$6% L ,QIOXHQW PJ↑ /	109 LPXP L 'LVFKDWH &ULWHULD ♂ PJ↑ /□	\$YHJDJH L 'LVFKDWH &ULWHULD ♂ PJ↑ /□
S+ L ♂ V¶	)LHOG↑ /	L ◀	L ◀	+	L ◀ !! L + L ◀ !!
\$OXPLOXP \$UMHQLI	'LWROYH 'LWROYH	T !! ◀ !! !!	!! ◀ L !! ◀	+	L ◀
&DGPLXP &DOFLXF	'LWROYH 'LWROYH	!! ◀ !! L ←	L !! ◀ ¶ →	!! ◀ !	!! ◀ !
&KORULG &KURPLXP	7RAD 'LWROYH	L ◀ !! ◀ !!	L ◀ L !! ◀	+	+
&RSSHL +DUQGHM ,LR	'LWROYH 'LWROYH 'LWROYH	!! ◀ ↑ ↑	!! ◀ !! ↑ ← → ▲	!! ◀ ! +	!! ◀ ! +
/HDG	'LWROYH	L !! ◀	L !! ◀	!! ◀ ♪	!! ◀ !
0DJCHMLXP 1LFN-K	'LWROYH 'LWROYH	T !! ◀	T !! ◀ !	+	+
3KRVSKRURX 6HCHQLXF	'LWROYH 7RAD	L !! !! ◀ !! !!	L !! ◀	13	!! ◀ !
6XOIDA =LQF	7RAD 'LWROYH	¶ ↑ !! ◀	→ ↑ !! ◀ !	+	+
\$FLGLN \$ONDOLQWM L ♂ %LFDUE	7RAD 7RAD	++ L .	L .	+	+
\$ONDOLQWM L ♂ &DUE	7RAD	L .	¶ +	+	+
\$ONDOLQWM L ♂ +\GJF	7RAD	L .	L .	+	+
\$ONDOLQWM L ♂ .	7RAD	L .	¶ ¶	+	+
7RADOL 'LWROYHG L +	7RAD	L .	¶ T	+	+
7RADOL 6XVSHQHG L 6	7RAD	¶	L .		

1RWHV

¶ ◀ L L S+ L YDOXHV/DUH L IRPPL 7HWL \$PHULFD L ODE
 UHSRUWHL L QL WADQGDUG L XQLW
 L ◀ L L 'LVFKDWHJL FULWHULD L DQG L EDMLV IRU L PD[
 YDOXHV L DUH L OLWHGL L QL WKHL 5HTXHWL IRU L \$SS.
 ORGL L LFDSLRLQV L WR L WKHL 5HPRYDOL \$FALRQL DW L WK
 OLGH L OHPRUDOGXP L ♂ 8◀ 6◀ L (3\$ L + !! !! ← □
 13 L + 1RWL 3URPXOJDWGS
 T ◀ L 9DOXHRCGQH L HI IOXHQW FRQFHQWLWDLRQV L JL V◀ X◀ L + WADQGDUG L XQLW
 WKHL PD[LPXP L RU L DYHJDJH L GLVFKDWHJL FULWHULD

7\$%/(L ↑

\$63(1 L 6((3 L %,25(\$&725 L 75(\$70(17 L 6<67(0 L + L 5(&(17 L)/2:8 L S+8 L \$1, L 253 L),(/' L 0(\$685(0(176

0\$5&+ L ↑ !! ↗ → L 0217+/< L 6800\$5<

'UDW L + L 3URYLVLRQDO L 'DWD

'DWH	\$VSHQ L GHS L %LRUHDFARUL ,QIOXHOM L %LRFHOO L QI L ,QIOXHOM L %LRFHOO L ,QIOXHOM			ODQKROH L + L RU L ↑			ODQKROH L + L RU L ↑			ODQKROH L → L RU L ↑			\$VSHQ L GHS L %LRUHDFARUL		
	)CRZ L ♂ JSP	S+ L ♂ V◀	253 L ♂ P9[	S+ L ♂ V◀	253 L ♂ P9[	S+ L ♂ V◀	253 L ♂ P9[	S+ L ♂ V◀	253 L ♂ P9[	S+ L ♂ V◀	253 L ♂ P9[	S+ L ♂ V◀	253 L ♂ P9[	S+ L ♂ V◀	253 L ♂ P9[
!! ← ↑ ⊥ !! ↑	↔ T	↑ ▲ !!	↑ ▲ ↔	→	↑ ▲ ↔ T	← ▲	!!	↑ T → ♫ ← T	→ ▲	↑ ← T	↑ T ♫ ←	→ ▲	↑ T ♫ ←	→ ▲	↑ T ♫ ←
!! ↓ !! ↓ ↓	↔ T	T ▲ ↑	↑ ▲ ↔	↑ ▲ T	↑ ▲ ↔ T	→ ▲	↑ ↗	↑ ↑ ← ▲ T	→ ▲	↑ ← T	↑ T ♫ →	→ ▲	↑ T ♫ →	→ ▲	↑ T ♫ →
!! ↓ ♫ → ↓	↔ T	T ▲ ↑	↑ ▲ ↑	→	↑ ♫ → ▲ ←	← ▲ ♫ ↑	↑ ↗	↑ ↑ ← T	→ ▲	↑ → T	↑ T ♫ →	→ ▲	↑ T ♫ →	→ ▲	↑ T ♫ →
!! ↓ ⊥ + ↓	↔ T	T ▲ ↑	↑ ▲ ↑	↑	↑ T !! ↓	↑ T ♫ ↑	↑ ↗	↑ ↑ ← T	→ ▲	↑ → T	↑ T ♫ →	→ ▲	↑ T ♫ →	→ ▲	↑ T ♫ →
♪ !! ↑ !! ⊥ ↑	↔ T	T ▲ ↑	↑ ▲ ♫	↑	↑ !! ♫ ↑	→ ▲	↑ ↗	↑ T T ⊥ ↔	↑ ▲	↑ T T	↑ T → ⊥	→ ▲	↑ T → ⊥	→ ▲	↑ T → ⊥
♪ !! ↑ !! → ↓	↔ T	T ▲ ↑	↑ ▲ ↔	↑	↑ ← ▲ ↔	→ ▲	↑ ↗	↑ T !! ♫ ↑	↑ ▲	↑ T ♫ ↑	↑ T ♫ →	→ ▲	↑ T ♫ →	→ ▲	↑ T ♫ →
♪ !! ↑ ♫ ↑ ↓	↔ T	T ▲ ↑	↑ ▲ ↑	↑	↑ T !! ↔	↑	↑ ↗	↑	↑	↑	↑ ♫ ↔	↑	↑ ♫ ↔	↑	↑ ♫ ↔
♪ !! ↑ ♫ ↑ ↓	↔ T	T ▲ ↑	↑ ▲ ↑	↑	↑ T ⊥ ↔	↑	↑ ↗	↑	↑	↑	↑ ♫ →	↑	↑ ♫ →	↑	↑ ♫ →
♪ !! ↑ T !! ↑	↔ T	T ▲ ↑	↑ ▲ ↔	↑	↑ T ↔ !!	↑	↑ ↗	↑	↑	↑	↑ T ↑ T	↑	↑ T ↑ T	↑	↑ T ↑ T
♪ ♫ ↑ !! ↑ ↑	↔ T	T ▲ ♫	↑ ▲ ♫	↑	↑ ↑ ▲ ♫	↑	↑ ↗	↑	↑	↑	↑ T + ⊥ ↔	↑	↑ T + ⊥ ↔	↑	↑ T + ⊥ ↔
♪ ⊥ + ♫ ♫ ↑	↔ T	T ▲ ↑	↑ ▲ →	↑	↑ ♫ ↑ ↔	+	+	+	+	+	+	+	+	+	+
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!! ↑ ↓ +	↔ T	↑ ⊥	↓ ↔	↓	↓ ⊥ ↔	↓	↓ ↗	+	+	+	+	+	+	+	+
!! ↑ ↓ ♫ +	↔ T	↑ ⊥	↓ ↔	↓	↓ ⊥ ↔	↓	↓ ↗	+	+	+	+	+	+	+	+
!! ↑ ↓ + +	↔ T	↑ ⊥	↓ ↔	↓	↓ ⊥ ↔	↓	↓ ↗	+	+	+	+	+	+	+	+
!! ↑ ↓ ♫ + +	↔ T	↑ ⊥	↓ ↔	↓	↓ ⊥ ↔	↓	↓ ↗	+	+	+	+	+	+	+	+
!! ↑ ↓ + + +	↔ T	↑ ⊥	↓ ↔	↓	↓ ⊥ ↔	↓	↓ ↗	+	+	+	+	+	+	+	+
!! + ♫	↔ T	↑ ⊥	↓ ↔	↓	↓ ⊥ ↔	↓	↓ ↗	+	+	+	+	+	+	+	+
!! + ♫ +	↔ T	↑ ⊥	↓ ↔	↓	↓ ⊥ ↔	↓	↓ ↗	+	+	+	+	+	+	+	+
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!! + ♫ + + + +	↔ T	↑ ⊥	↓ ↔	↓	↓ ⊥ ↔	↓	↓ ↗	+	+	+	+	+	+	+	+
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3DJH L + L RI L →

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7\$%/(L ⁺
 \$63(1 L 6((3 L %,25(\$&725 L 75(\$70(17 L 6<67(0 L + L 5(&(17 L)/2:Q L S+Q L \$1, L 253 L),(/ L 0(\$685(0(176
 0\$5&+L + !! Q → L 0217+/< L 6800\$<
 'UDW L + L 3URYLVLRQDQ L 'WDW

'WDW	\$VSHQ L 6HS L %RLUHDFWRU L ,QIOXHQ W %LRFHOO L Q L ,QIOXHQ W %LRFHOO ,QIOXHQ W			ODQKRCH L + L RU L ♂ %LRFHOO L Q L ,QIOXHQ W %LRFHOO ,QIOXHQ W			ODQKRCH L + L RU L ♂ %LRFHOO L Q L ,QIOXHQ W %LRFHOO ,QIOXHQ W			ODQKRCH L + L RU L ♂ %LRFHOO L Q L (QIOXHQ W) (QIOXHQ W			\$VSHQ L 6HS L %RLUHDFWRU L %LRFHOO L Q L (QIOXHQ W (QIOXHQ W		
)CRZ L ♂ JSP	S+ L ♂ V◀	253 L ♂ P9	S+ L ♂ V◀	253 L ♂ P9	S+ L ♂ V◀	253 L ♂ V◀	S+ L ♂ P9	253 L ♂ V◀	S+ L ♂ V◀	253 L ♂ P9	S+ L ♂ V◀	253 L ♂ P9		
!! → ↑ ± ← ↓	↑ ↑	Q ♀ ▲ ±	± □ ▲	+ — + T ← ▲ →	+ T ← ▲ →	← ▲ T →	+ T ← ▲ T →	+ T ← ▲ T →	+ T ← ▲ T →	↑ T →	+ T →	→ ▲	↑ ♀		
!! ← ↓ !!	Q ♀ ▲	± □ ▲	T →	- ▲ + T →	+ T →	- ▲ + T →	+ T →	+ T →	+ T →	+ T →	+ T →	- ▲ + T →	+ -		
!! ← ↓ Q ♀ ± ↓ ±	Q ♀ + ▲	± □ ▲	+ ± !!	+ ♀ T ▲ +	+	+ ♀ T ▲ +	+	+	+	+	+	+	+		
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!! ↑ !!	Q ♀ ▲	± □ ▲	+ ♀	- ▲ + T ←	+ T ←	- ▲ + T ←	+ + !!	- ▲ + T ←	+ T ↑	- ▲ + T ←	+ + !!	+ + !!	+		
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!! ↑ ♀	Q ♀ ▲	± □ ▲	+ ±	- ▲ + T ↑	+ T ↑	- ▲ + T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+		
!! ↑ T	Q ♀ ▲	± □ ▲	T +	- ▲ + T ↑	+ T ↑	- ▲ + T ↑	+ + +	+ T ↑	+ T ↑	- ▲ + T ↑	+ + +	+ + +	+		
!! ↑ T	Q ♀ ▲	± □ ▲	T +	- ▲ + T ↑	+ T ↑	- ▲ + T ↑	+ + +	+ T ↑	+ T ↑	- ▲ + T ↑	+ + +	+ + +	+		
Q ♀ !! ↑ !!	Q ♀ ▲	± □ ▲	T + -	- ▲ + T ↑	+ T ↑	- ▲ + T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+		
Q ♀ !! ↑ ♀	Q ♀ ▲	± □ ▲	T ↑	- ▲ + T ↑	+ T ↑	- ▲ + T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+		
Q ♀ !! ↑ T	Q ♀ ▲	± □ ▲	T + +	- ▲ + T ↑	+ T ↑	- ▲ + T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+		
Q ♀ ♀ !!	Q ♀ ▲	± □ ▲	T +	- ▲ + T ↑	+ T ↑	- ▲ + T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+		
Q ♀ T + !!	Q ♀ ▲	± □ ▲	+ !! -	- ▲ + T ↑	+ T ↑	- ▲ + T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+		
!! ♀ !!	Q ♀ ▲	± □ ▲	+ ♀	- ▲ + T ↑	+ T ↑	- ▲ + T ↑	+ + !!	- ▲ + T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+		
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!! T + ♀	T ▲	± □ ▲	+ ±	- ▲ + T ↑	+ T ↑	- ▲ + T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+		
!! ↑ ♀	↑ ▲	± □ ▲	T +	- ▲ + T ↑	+ T ↑	- ▲ + T ↑	+ + !!	- ▲ + T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+		
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!! ↑ ♀	↑ ▲	± □ ▲	+ ±	- ▲ + T ↑	+ T ↑	- ▲ + T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+		
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!! ↑ ♀	↑ ▲	± □ ▲	+ ±	- ▲ + T ↑	+ T ↑	- ▲ + T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+		
!! ↑ T	↑ ▲	± □ ▲	+ ±	- ▲ + T ↑	+ T ↑	- ▲ + T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+		
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!! ↑ ♀	↑ ▲	± □ ▲	+ ±	- ▲ + T ↑	+ T ↑	- ▲ + T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+ T ↑	+		
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3DJH L + L RI L →

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0\$5&+ L ± !! ¶ → L 0217+/< L 6800\$5<

'UDW L + L 3URYLVLRLQDO L 'DAD

'DWH	\$VSHQ L 6HHS L %LRUHDFARUL ,QIOXHQL %LRFHOO L QIOXHQL %LRFHOO L QIOXHQL %LRFHOO L QIOXHQL			ODQKROH L ♀ L RU L			ODQKROH L → L RU L			\$VSHQ L 6HHS L %LRUHDFARUL ,QIOXHQL (I)OQHQL (I)OQHQL (I)OQHQL (I)OQHQL			
)CRZ L ♂ JSP	S+ L ♂ V◀	253 L ♂ P9[S+ L ♂ V◀	253 L ♂ P9[S+ L ♂ V◀	253 L ♂ P9[S+ L ♂ V◀	253 L ♂ P9[S+ L ♂ V◀	253 L ♂ P9[S+ L ♂ V◀	253 L ♂ P9[
!! ← ± !!	↑◀	↑◀	↑↑-	←◀	↑↑↑	→◀	↑↑↑	→◀	↑↑↑	→◀	↑↑↑	←◀	↑→-
!! ← ± ¶	↑◀	↑◀	↓→↓	←◀	↑↑	→◀	↑↑↑	→◀	↑↑↑	→◀	↑↑↑	←◀	↑¶←
!! ← ± ⊥	↑◀	↑◀	↓↑¶	←◀	↑↑¶	→◀	↑↑↑	↑◀	↑↑↑	↑◀	↑↑↑	↑	↑
!! ← ± T	↑◀	↑◀	↓↑	→◀	↑↑¶	→◀	↑↑↑	→◀	↑↑↑	→◀	↑↑↑	↑	↑
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!! ↓ ¶± ↑ ↓ Q - ▲ ↑	↑◀	↑◀	↑↑	↑→◀→	↑↑↑	↑◀	↑↑↑	↑◀	↑↑↑	↑◀	↑↑↑	→◀	↑¶
!! ↓ ⊥	↑◀	↑◀	↑↑	→◀	↑↑	→◀	↑↑↑	→◀	↑↑↑	↑◀	↑↑↑	↑	↑
!! ↓ ⊥	↑◀	↑◀	↑↑	←◀	↑↑¶	→◀	↑↑↑	→◀	↑↑↑	↑◀	↑↑↑	↑	↑
¶ !! ↑ !!	↑◀	↑◀	↑↑	←◀	↑↑	→◀	↑↑↑	→◀	↑↑↑	→◀	↑↑↑	↑	↑
¶ !! ↑ ¶	↑◀	↑◀	↑↑	↑↑	↑↑	→◀	↑↑↑	→◀	↑↑↑	→◀	↑↑↑	←◀	¶ !! 1
¶ !! ↑ ⊥	↑◀	↑◀	↑↑	↑↑	↑↑	→◀	↑↑↑	→◀	↑↑↑	→◀	↑↑↑	←◀	¶ ↑
¶ ¶ !! ↑ !!	↑◀	↑◀	↑↑	↑↑	↑↑	→◀	↑↑↑	→◀	↑↑↑	→◀	↑↑↑	↑	↑
¶ ¶ ↑ !!	↑◀	↑◀	↑↑	↑↑	↑↑	→◀	↑↑↑	→◀	↑↑↑	→◀	↑↑↑	↑	↑
¶ ⊥ !! ↑ !!	↑◀	↑◀	↑↑	↑↑	↑↑	→◀	↑↑↑	→◀	↑↑↑	→◀	↑↑↑	↑	↑
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!! ⊥ !! ↑	↑◀	↑◀	↑↑	←◀	↑↑	→◀	↑↑↑	→◀	↑↑↑	→◀	↑↑↑	↑	↑
!! ⊥ !! ↑ ¶ ↑	↑◀	↑◀	↑↑	↑↑	↑↑	+	+	+	+	+	+	+	+

1RWH

1 \$VSHQ L 6HHS L %LRUHDFARUL QIOXHQL ICRZ L UDWH L PHDXULPHQWL DUH L LHOG L PHDXULPHQWL FROCHWGL ZHKL D L JUDGOWHG L
 1 /RZ L S+ L PHDXULPHQWL GHL WR L SRZH L RXWDH L DQG L DMRFLDWGL FKPLFDOL SXPS L GRZQNLPH L GULQ L WKHL QIOXHQL IDLG
 1 /RZ L S+ L PHDXULPHQWL GHL WR L LQFHDMH L QL VVWPL ICRZ L UDWH L FKPLFDOL GRVLQJ L UDWH L CDJHGL EHKLG L WKMH L ' JSP L + JDOORQV L SHL PLQWH
 XQDEOH L WR L SUHYQWV GFLHDML QL VVWPL S+
 1)LHOG L PHDXULPHQWL DV L QNHWPHGLDWL ELRUHDFARUL PDQKROH L ZHHL CRW L FROCHWGL ZHKL UHFLUPXDWLRQ L RSHDWLRQ L Z
 1 QNHWPHGLDWL GHL WR L VQXGH L GHZQWLQJ L RSHDWLRQ L ELRPHQWL IOKLQJ L RU L RPKH L PDQWHDQFH L DRALYULHV
 1 253 L PHDXULPHQWL PD L EH L LQDFXULWH L GHL WR L SREH L FDOLEUDWRQ L LWXHV
 1 /RZ L S+ L PHDXULPHQWL GHL WR L D L SRZH L RXWDH L DQG L DMRFLDWGL FKPLFDOL SXPS L VQXGH ZQ
 1 (1)OXMW L SLDQPHWUV L ZHHL FROCHWGL DM WKHL VQXGH L GHZQWLQJ L LQWDLW L GLVFRQW
 1 +LJK L 253 L PHDXULPHQWL LQ PDQKROH L GHL WR L UHFLUPXDWLRQ L VVWPL GRZQNLPH
 1 (1)OXMW L RQ L SLDQPHWUV L ZHHL FROCHWGL GULQ L HIOXHM CDQGH L VFUHQ L UHSDDW
 1 ,QIOXHQL RQ L SLDQPHWUV L ZHHL FROCHWGL GULQ L SVSHQ L VROLGV L PDQJHPHQW
 1 ,QIOXHQL S+ L PHDXULHG L QL WKHL LHOG L ZD L CRZ L ,QIOXHQL S+ L PHDXULHG L EV L WKHL ODERUDWRUL ZD L ± ▲ L V A X L)LHOG L SLDQPHWUV L ZHHL RQ L PHDXULHG L DW L QIOXHQL DQG HIOXHM GHL WR L VLPW L FROQWLDQW

3DJH L → L RI L →